

NUCLEAR DIVISION NEWS

UNION
CARBIDE

A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 1 — No. 22

OAK RIDGE, TENNESSEE

Thursday, December 3, 1970

Withholding Taxes Edging Downward; FICA Will Increase

The Payroll Department advises that withholding taxes will be slightly lower beginning with the first pay earned in 1971. New rates for withholding take into account the exemption allowance of \$650 per dependent, rather than the \$600 now used. There is also a significant change in the rate for single persons and heads of households. (New rates appear in the table below.)

Another change in the Tax Reform Act of 1969 is the increase in standard deduction to 13 percent of adjusted gross income up to a maximum of \$1,500 . . . replacing the old 10 percent of adjusted gross income up to a maximum of \$1,000.

Employees may compute withholding taxes as follows:

1. Calculate annual wages by multiplying gross monthly or weekly salary by 12 or 52.

2. Multiply total number of exemptions as reported on W-4 by \$650.

3. Subtract 2 from 1.

4. Calculate the annual tax to be withheld by use of the tables and divide by 12 or 52 to arrive at monthly or weekly withholding.

Employees may adjust the number of dependents claimed for tax purposes in leveling individual tax obligations . . . i.e. if they anticipate more obligation than present withholding indicates, they may decrease their number of dependents claimed. The Timekeeping Department, Building 9711-5, in Y-12; and Building K-1001, in ORGDP, will be able to furnish new W-4 forms.

F.I.C.A. (Social Security) taxes increase the first of January, from the present 4.8 percent to 5.2 percent on the initial \$7,800 earned. Employees will pay a maximum of \$405.60 in 1971, rather than the \$374.40 now paid.



LINDE-CREATED GEMS—Marlena Beal, standing, and Jan Wing, both of Y-12's Employment, model the Quintessa jewels. Marlena wears four rings, a bracelet, brooch and a pendant. Jan wears the emerald earrings, brooch, bracelet, three rings, while holding a bow pin.

For Employees Only

Quintessa Jewelry Sale To Be Friday & Saturday at Holiday

A two-day jewelry sale for Union Carbide Corporation employees will be held Friday and Saturday (December 4-5) at the Holiday Inn in Oak Ridge. During the sale, Division employees will have an opportunity to purchase Quintessa fine jewelry at approximately 25 percent of the retail price.

The pre-Christmas sale will be held in the Ridge Room of the Holiday Inn. On Friday, December 4, the sale hours will be from 2 to 9 p.m., while hours for the sale on Saturday, December 5, will be from 9 a.m. to 4 p.m.

Many Different Pieces

Samples of the hundreds of different pieces which will be available were on display at the three plant cafeterias during the last two weeks.

The Quintessa collection includes pieces containing natural emeralds, diamonds and other gemstones, as well as the Linde-created emerald. Available for sale will be women's jewelry — ranging from the traditional styles to high fashion — at manufacturers' cost. Prices for this fine jewelry range from \$15 to \$1,000, with a large number of items priced below \$100.

The cafeteria displays showed examples of some of the savings that can be realized by employees. One ring with a retail price of \$300, was available for \$86. Women's earrings, normally priced at \$135, were listed at \$34. Hundreds of items will be available to employees at equally great savings.

Anniversary Sale

This special sale for Union Carbide employees is being staged as part of the observance of the 30th anniversary of the Jewelry Products Department.

The Friday and Saturday sale will be the once-in-a-lifetime opportunity for employees to purchase gems from the Quintessa collection, which are set in 14 kt. and 18 kt. gold, at manufacturers' cost. On sale will be ladies' rings, pins, bracelets, pendants and earrings.

Employee identification by film badges will be required in order to purchase the jewelry. Employees will be asked to pay for their purchase either by check or with cash. Retired employees also are eligible to purchase gems. All sales are final. Ring sizing will be the responsibility of the purchaser.

Toll Enriching Revenue at \$2 Billion

Orders placed under the toll enrichment program for providing uranium enrichment services to the nuclear power industry have now passed the two billion dollar mark.

Dr. Glenn T. Seaborg, Chairman of the AEC, said the AEC has entered into 53 agreements to perform approximately \$2.3 billion in toll enriching services, some of which extend over the next 30 years.

Toll enrichment, which began January 1, 1969, is an arrangement whereby privately owned

uranium is enriched in Government plants. The customer furnishes uranium feed material to the AEC, pays an enriching charge and in turn receives uranium enriched in the fissionable isotope U-235.

Five New Contracts

Pushing the contract total over the \$2 billion mark are five new contracts totaling approximately \$420,000,000 which were signed with domestic firms in September and October. The firms are: Wisconsin Public Service Corporation, General Electric Company, Baltimore Gas and Electric Company, Maine Yankee Atomic Power Company and Rochester Gas and Electric Company.

To date the AEC has signed 22 contracts with U. S. firms and 31 contracts with customers in other countries. The Commission will be supplying the domestic companies with \$1,600,000,000 in enrichment services and those abroad with some \$688,000,000 in services under the contracts, based on the current charge of \$26 per unit of separative work.

The toll enriching agreements with customers abroad include 18 with the European Atomic Energy Community totaling \$124,291,511; eight with Japan, totaling \$335,312,016; two with Switzerland, amounting to \$88,361,494; two with Sweden for \$139,156,394; and one with Spain totaling \$838,110.

During 1969 the AEC received \$60.8 million in revenue under the toll enrichment program. Annual toll enrichment revenue based on the current charge will increase to approximately \$120 million this year; \$250 million is expected in

1973; and an estimated \$850 million is forecast for 1980, based on existing contracts and anticipated agreements.

30 Year Contract

Among those contracts signed in recent weeks, the agreement with Baltimore Gas and Electric Company of Baltimore, Md., was the largest. Over the 30-year life of the contract the cost of supplying enrichment services is estimated.

(Continued on Page 5)

Childrens' Parties

The Christmas parties for children of Union Carbide employees are all set for Wednesday, December 23. They will be staged at the Oak Ridge High School auditorium at 8:30 and 10:30 a.m. and at 12:30, 2:30, 4:30 and 6:30 p.m.

The application appears in the Y-12 Bulletin and Carbide Courier section of this issue of the NUCLEAR DIVISION NEWS. Applications must be turned in by December 18.

New Tax Schedule for 1971

ANNUAL PAYROLL PERIOD

SINGLE PERSON—Including Head of Household

Wages less exemptions:		Income tax to be withheld:	
Not over \$1,050		0	
Over—	But not over—	of excess over—	
\$ 1,050	\$ 1,600	14%	—\$ 1,050
\$ 1,600	\$ 2,600	\$77, plus 17%	—\$ 1,600
\$ 2,600	\$ 5,200	\$247, plus 20%	—\$ 2,600
\$ 5,200	\$ 7,000	\$767, plus 18%	—\$ 5,200
\$ 7,000	\$11,000	\$1,091, plus 21%	—\$ 7,000
\$11,000		\$1,931, plus 24%	—\$11,000

MARRIED Person

Wages less exemptions:		Income tax to be withheld:	
Not over \$1,050		0	
Over—	But not over—	of excess over—	
\$ 1,050	\$ 2,200	14%	—\$ 1,050
\$ 2,200	\$ 4,000	\$161, plus 17%	—\$ 2,200
\$ 4,000	\$ 8,500	\$467, plus 16%	—\$ 4,000
\$ 8,500	\$14,000	\$1,187, plus 19%	—\$ 8,500
\$14,000	\$20,000	\$2,232, plus 21%	—\$14,000
\$20,000		\$3,492, plus 25%	—\$20,000



QUINTESSA BEAUTIES—A sampling of the beautiful emerald rings in the Quintessa collection are seen. Many of the Linde-created gems are surrounded by genuine diamonds, perfectly cut. Employees only may be able to purchase these Union Carbide products at the Holiday Inn, Oak Ridge, December 4 and 5.

Holiday Bureau Needs Dollars, Volunteer Workers, Used Toys

There are only 13 more working days until the Holiday Bureau's special early Christmas on December 17, the date that distribution of toys and food begins for needy Anderson County youngsters and their families.

And the Holiday Bureau has just one thing to say — "Please help now!"

Things needed, not necessarily in this order, are extra dollars to pay the bills, extra old toys to be refurbished, and extra hands to do the collecting, repairing and distributing. "We're at the peak of our work right now," reports Jerry Goldberg, an employee at Oak Ridge National Laboratory and Bureau Chairman for the last 11 years. "So now's the time to help if you can."

Variety of Jobs

Long-time Holiday Bureau volunteers James Manney and Gertrude Coin are already hard at work at the toy repair and collection shop, which is located off Oak Ridge Turnpike at Dennison Hall, a building near to the National Guard Armory.

"We need all the help we can get," Manney says. Volunteer labor — "skilled, unskilled, or just concerned" — is needed from now through December 17. The Bureau is open every day — from 9 a.m.

to 5 p.m. weekdays and from noon to 5 p.m. on weekends. "But the closer we get to Christmas, the more hours we'll work," he said.

The kinds of jobs? "We try to repair everything from tricycles to dolls. Some of our volunteers take toys home, clean them up, and bring them back looking like new. Others work here in our shop." Volunteers — either to donate toys or help in the refurbishing — can call 483-7831. Incidentally, this year there's a particular shortage of dolls.

United Fund Agency

The Holiday Bureau, a United Fund agency, receives some \$2,500 from the Fund each year but is authorized to raise additional support through individual donations. This year, \$3,500 more is required to refurbish the toys and to fill close to 500 food baskets for the more needy families. Toys go to youngsters in about 900 families.

Extra funds come from individuals, from civic clubs, and from special groups — like those from departments and divisions within Carbide's Nuclear Division.

Every effort is made to take care of each of the families that request assistance. Applications were screened through the Welfare Departments in Oak Ridge and in Clinton through November 25, the cutoff date set to permit adequate planning.

The names of all money donors will be listed in **The Oak Ridger** unless the Bureau is requested to do otherwise. Last year the Bureau spent some \$6,000 at Christmas. Extra money, when collected, is used throughout the year for emergency assistance.

Try To Help All

In order to insure a food basket for those families in excess of the 450-500 assisted by the Bureau, a clearing house is also operated. Goldberg hopes that the churches and other groups who provide baskets at Christmas will contact Madge Baker, Bureau Administrative Assistant, and cross check the names of the families they are assisting, or request names of



MORE HELP NEEDED—Already hard at work are volunteers, from left, J. B. Woodward, H. B. Mills, and A. J. Hawkins. All are retired Oak Ridgers.

families in need of assistance. "Only in this way can we be assured that all in need receive a basket rather than some getting two or three while others receive nothing," said Goldberg. Mrs. Baker's telephone number is 483-4198. It is not listed in the directory.

As an additional service to the County, the Bureau supervises the In-Lieu-of-Christmas-Cards Fund. Donations earmarked for an individual's favorite charity are mailed to the Bureau. These individuals are then listed in **The Oak Ridger** as having donated to a charity in place of mailing cards locally. The amount, or charity, is not listed. Last year over \$2,000 was redistributed to more than 20 charitable organizations. The mailing address of The Holiday Bureau is P. O. Box 220, Oak Ridge, Tennessee.

Many volunteers assist the work of the Bureau. In addition to the painters, sorters and repairers,

food baskets are made up by the Anderson County Rescue Squad and are delivered by the Squad, the County Road Superintendent and Sheriff's offices, the Clinton volunteer fire department and many other helpful individuals.

This is the idea behind the Holiday Bureau — many people giving of their time and money to help those in need. But time's growing short for Christmas 1970, so if you can help please start today.

WORKING WOMEN

The number of working wives in the United States rose by 774,000, to 17.6 million, in the year ended in March, 1969, according to Bureau of Labor Statistics. Nearly half of all married women with school-age children were employed last year. This was the third year in a row to show a sharp rise in the number of wives that work. It is indicated that the higher the education level, the

ASQC Meeting

The Tennessee Section of the American Society for Quality Control is meeting next Monday, December 7. The meeting is set in the Dean's Room, Faculty Club, on the campus of The University of Tennessee.

Danny G. Watson, chemical engineer in charge of pollution, air and water control from Rohm and Haas, Knoxville, will be the speaker. His subject will be "Environmental Quality Control."

Dinner reservations should be in by tomorrow, Friday, December 4. Call Knoxville 974-333.

The UT Faculty Club is located on Neyland Drive between West Cumberland Avenue and the Alcoa Highway Bridge.

more likely married women were to work — except among those with preschool children.

NEWS

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NUCLEAR DIVISION

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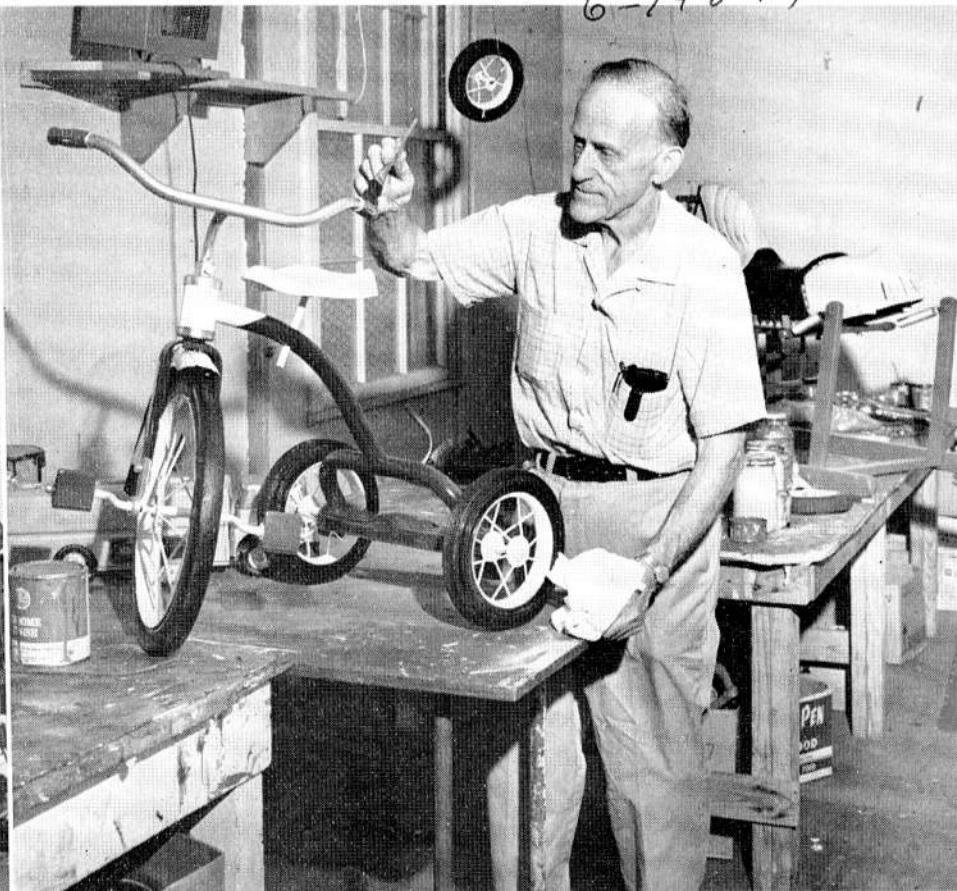
International Association of
Business Communicators

OFFICE

Post Office Box Y
Oak Ridge, Tenn. 37830
Telephone 3-7100 or 3-5345



"BEFORE"—The Holiday Bureau needs hundreds of old toys for refurbishing. Here Bureau Chairman Jerry Goldberg removes one of the "before" toys for volunteers to begin work on.



"AFTER"—Long-time Bureau volunteer James Manney is shown putting the finishing touches on a tricycle that will bring the magic of Christmas into the home of some needy child in Oak Ridge or Anderson County.

Public Address System Fills Vital Need in Emergencies

Y-12's Public Address System is a plant-wide system to provide simultaneous oral communication internally and externally for all the buildings in the plant. It is installed primarily for the purpose of advising employees on their personal safety in case an emergency arises. An understanding of the system is helpful to every employee, knowing the basic functions of the entire system. No adjustments should ever be made to the system unless under the direction of the Plant Shift Superintendents who serve as the plant's emergency directors.

In addition to emergency uses, the PA system is used for paging, a second priority. Then the system is used for music, buzzers, etc., transmitted as a last priority. The paging, music, etc., are automatically cut out by an override system whenever the plant emergency director or the Plant Superintendent makes an emergency announcement.

Maintenance Will Adjust

What if the paging system or music are too loud? Remember, don't turn knobs merely to satisfy yourself. You may turn the wrong knob or volume control and, in fact, cut out the ability of the emergency director to make necessary communications if the need should arise. You may be out of communication, in this case, and place yourself and your co-workers in jeopardy.

Each part of the system, emergency announcements, paging, music, etc., all have volume controls and adjustments can be made by authorized Maintenance personnel. Contact the Plant Shift Superintendent's office and he will authorize the necessary work

to improve the system. (Their plant extension is 3-7172.)

Central Communication

A test of the address system is made each Monday. This serves two purposes: it tests the entire continuity of the PA system using the override system to determine if it is at acceptable standards; and secondly, it brings each person in the Plant a safety message which has been prepared and read by a fellow employee.

The PA system plays a major role in the overall safety, providing a means of central communication in case of a real potential emergency. This requires that many people are involved in determining that the system is operable at all times.

The cooperation of every employee in the plant is required if the system remains 100 percent effective.

Salaried Employees' Get Some Insurance Changes

The Hospital, Surgical, Medical Plan for all salaried employees automatically provides benefits for unmarried dependent children between their 19th and 23rd birthday if they are disabled due to a physical or mental impairment, or if they are students in a school such as a college or university when the employee is enrolled for family coverage.

If such a dependent continues to be disabled after his 23rd birthday, a physician's statement describing the condition must be submitted to Blue Cross through Benefit Plans Office for their approval within 31 days after his 23rd birthday. Employees are notified when Blue Cross' response is received.

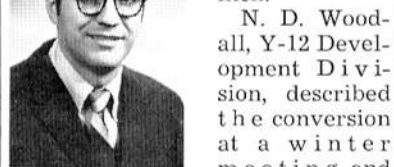


Riders wanted or will join car pool from UT area, Knoxville, to West Portal, straight day. W. R. Lacefield, plant phone 3-7193, home phone Knoxville 546-6855.

Riders wanted from Newmarket, Straw Plains, Burlington area, Knoxville, to any portal, straight day. Fred McNamara, plane phone 3-7182, home phone Knoxville 933-6603.

Woodall Describes Y-12 Machinery—ASME Meet

Machine tool engineers here have demonstrated that economy can be realized by converting a standard boring machine into a high precision inspection instrument capable of measuring to accuracies of within a few millionths of an inch.



Woodall

of the American Society of Mechanical Engineers in New York City, November 30-December 3.

Woodall's paper, entitled "Application of Air Bearings and Laser Interferometry to an Inspection Machine," describes how a jig boring machine was converted to a valuable inspection tool by using special technologies developed here. The modification was accomplished at far below the cost of a comparable inspection machine.

R. E. Hester and Jack Johnson Named Lab Supervisors in Technical Services

Two recent promotions are announced in Y-12: Ray E. Hester and Jack Johnson have been named laboratory supervisors in Materials Testing Support in the Technical Services Division.

Ray E. Hester is a native of this area, born in Roane County. He came to Y-12 July 27, 1959. He has attended The University of Tennessee, Tennessee Polytechnic University, and the Industrial Electronics School at Wartburg.

Hester lives at Route 2, Oliver Springs. Mrs. Hester is the former Carolyn Sue Christopher. The couple has four children, Jeffrey, Lisa, Eva and Susanne.

Jack Johnson

Jack Johnson was born in LaFollette, and came here September 30, 1959. He served in the U. S. Army from 1957 until 1958 and worked with the Caterpillar Tractor Company, Peoria, Ill.; and Spiegel Mail Order House, Chicago, before coming here.

He attended UT and also East Tennessee State University.

Mrs. Johnson is the former Montie Cooter. They live at 108 Culver Road, Oak Ridge, with their two children, Vicki Lynn and Michael David.



Ray E. Hester

Dependents' Coverage Is Improved for Y-12ers

Recent changes in the provisions of the Hospitalization and Surgical Plan make benefits automatically available to unmarried children until their 23rd birthday when they continue to be wholly dependent on an employee for support on and after their 19th birthday. These new benefits are available to all hourly paid production, maintenance and service employees and all guards at the Y-12 Plant who are enrolled for family coverage in the Plan.

Children now covered automatically by these benefits are those who are dependent on the employee because they are disabled due to a physical or mental impairment, or are students in a school such as a college or university.

Must Show Proof

Additional benefits may be available to unmarried dependent children after age 23 if they are disabled at that time and medical evidence of the disability is accepted by Union Mutual Life Insurance Company. Not later than 31 days after reaching age 23, a statement describing the dependent child's condition must be completed by a physician and given to the Benefit Plans Office. The form is then sent to the insurance company for their review. The employee will be notified of the insurance company's decision.

Employees who have physical- or mentally-impaired children who had not reached their 23rd birthday on June 22, 1970 (for production, maintenance and service employees), or October 1, 1970 (for guards), should remember to obtain the necessary statement from a physician before the 31-day period runs out.

VANDAL-PROOF WINDOWS

Chemical progress has come up with plastic windows which school officials hope may sharply reduce the \$1 million annual bill for replacing broken windows in U. S. schools.



Jack Johnson

Charlie Baxter Rolls High C League Games

The Sunflowers' Charlie Baxter bowls like he owns the league. On November 16, he rolled a 258 game . . . then returned to the alleys November 23 to roll exactly the same high score! Last week, however, he topped out with series of 649 scratch, 682 handicap.

The Rollmasters continue a loose hold on the league, after three point wins over the Fireballs and Rounders.

League standings follow:

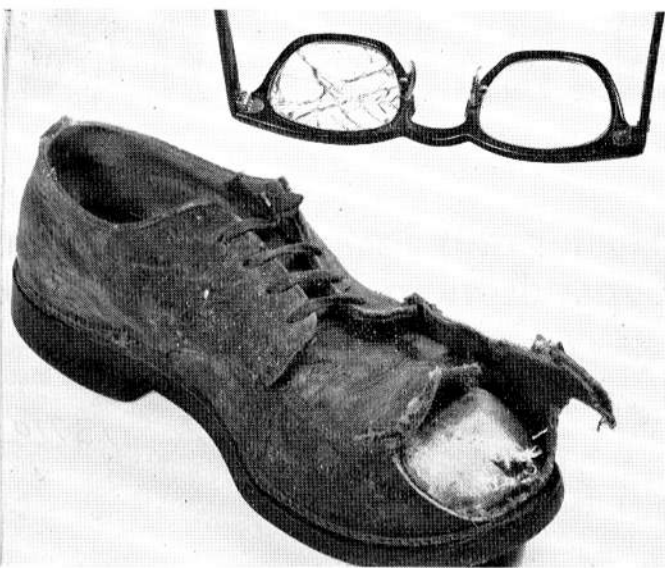
Team	W	L
Rollmasters	31	13
Rounders	29	15
Fireballs	24	20
Jaguars	24	20
Big Five	22½	21½
Purple Pygmies	22	22
Instrument Engineers	21	23
Anodes	21	23
Sunflowers	19½	24½
Parabusters	18	26
Badgers	18	26
Royal Flush	14	30

SAFETY SCOREBOARD

The Y-12 Plant Has
Operated
24 Days Or
780,000 Man-Hours
(Unofficial Estimate)
Through November 29
Without A Disabling Injury
SAFETY AT HOME,
AT WORK, AT PLAY



UNITED FUND LEADERS—Four Y-12 locals went over 160 percent of the 1970 United Fund drive! They include Local 623, culinary, with 182 percent of goal; 3, bricklayers, 173 percent; 252, chemical workers, 166 percent; and 480, machinists, 163 percent. The overall Union total was a fantastic 150 percent of the goal! This was the second straight year that the Culinary Workers had led the UF givers. Union solicitors include, from left, J. D. Hatmaker, C. F. Jenkins, D. E. Floyd, G. S. Stubbs, H. S. McClellan, R. C. Johnson, R. H. McNabb, J. A. Lane, B. B. Coulter, and N. A. O'Neal.



IT MIGHT HAVE BEEN—Had not employees been wearing safety equipment, surely tragic accidents would have been the result. The shoes saved N. W. Evans' foot from painful injury, and the safety glasses spared L. E. Richardson painful eye injuries.

Safety Equipment Makes 'Believers' Out of Two 'Lucky' Employees at Home

"Thinking safety is part of every job."

Two Y-12ers can attest to this theory with whole-hearted enthusiasm!

R. W. Evans, Utilities Administration, was mowing grass on his lawn recently with a regular gasoline-powered, rotary-type mower. As he stepped backward, his foot slipped on the inclined surface and went under the rear of the machine. The whirling blade struck the toe of his safety shoe with such force that it tore the metal cap from the toe and threw it to a still unlocated place! Evans received a badly bruised left toe; but he realizes the extent of his injury could have been much more severe, even to the loss of the end of his foot had it not been for the protection given by his safety shoes.

L. E. Richardson, Chemical Services, was mowing his lawn with the same type of mower used by Evans, when he had the unpleasant experience of being struck on the lens of his safety

glasses by a rock. The mower had picked up the rock and propelled it right into Richardson's glasses! Had he not been wearing safety glasses, he would have probably suffered permanent eye injury. The force of the stone shattered the lens of the safety glasses but did not scatter them.

No one needs to remind either of these employees that they were "lucky," or offer them any of the expressions that are considered appropriate after such experiences. They realize that it was their own efforts that provided them that extra protection which kept them from serious injuries. They attribute their alertness and safety awareness to on-the-job training given them here in Y-12.

Y-12 TOURNAMENT SET

Y-12 bowlers, wishing to make long-term plans, will be interested in Recreation's planned tournament.

The Y-12 Bowling Tournament has been set for Saturday and Sunday, March 13, 14.

Roses 'n Thorns Keep Mixed Bowling Lead

The Roses 'n Thorns kept first half hopes high recently by bowling over the Rollers by the big count. They now command a three and one-half point lead in the Mixed bowling set.

Bill Sahr, Twisters, recently posted big scores of 226, 256 in singles . . . 542, 632 in series counts.

League standings follow:

Team	W	L
Roses 'n Thorns	30	14
Hits & Misses	26½	17½
Twisters	26	18
Goofers	25	19
Rollers	23	21
Friskies	18	26
Alley Cats	14	30
Cougars	13½	30½

December 12 Festivity Set by Two Divisions

Product Engineering and Scheduling Divisions are planning a joint Christmas dance, set for Saturday, December 12.

Dancing begins at 9 p.m. at the Melton Hill Country Club. Music will be provided by the "Chronological Linkage."

Tickets are \$3 per person, and are available from R. G. Spurling, G. W. Carver, Linda Cash, R. F. Creigh, G. W. Bailey, Judy Winslett, M. R. Emery, S. H. Guy and J. L. Brown.

All Y-12ers are welcomed at the dance.

Mix-Ups Retain Slim Starlite Alley Edge

The Mix-Ups are still the leaders in the Starlite League for Y-12 bowlers, a mere one point out front. J. R. Jones, Mix-Ups, and J. Boles, Pin Boys, tied with a fine 220 scratch game.

The Starlites rested last week due to the Thanksgiving holidays.

League standings follow:

Team	W	L
Mix-Ups	25	8
Raiders	24	9
Latecomers	21	12
Woodpeckers	20	13
Marauders	18	15
Wildcats	17	16
Comets	16	17
Pin Boys	14	19
Splitters	6	27
Rollers	4	29

Y-12 Milestones

Late Fall anniversaries list many more Y-12ers, marking important dates with Union Carbide Corporation. Congratulations!

25 YEARS

Gladys B. Bayless, Engineering Division, December 3.

Franklin P. Munsey, Dispatching Department, December 5.

Charlie C. Bridges, Beta Two Chemistry, December 12.

Alva L. Fischer, Material Procurement, December 12.

Clyde A. Cook, Fire Department, December 13.

William H. Wright, Alpha Five Processing, December 13.

Louise D. Rogers, Assembly Operations, December 15.

20 YEARS

Bertha M. Hall, Building Services Department, December 3.

Freddy D. Marler, Chemical Services, December 4.

Gentry R. Ogle, Special Services, December 4.

Orland C. Blanton, Casting Department, December 4.

Ernest S. Lewis, Process Maintenance, December 4.

Arland E. Burger, Alpha Five East Shop, December 4.

Henderson L. Miller, Fire Department, December 5.

Willis F. Cooper, Area Five Maintenance, December 6.

Lendon E. Hart, Buildings, Grounds and Maintenance Services, December 7.

Homer L. Horton, Chemical Services, December 7.

Oliver B. Harness, Buildings, Grounds and Maintenance Services, December 7.

Harley H. Law, General Machine Shop, December 8.

William T. Fry, Process Maintenance, December 8.

Benjamin F. Smith, Buildings, Grounds and Maintenance Services, December 8.

Amos L. Hensley, Machine Maintenance, December 8.

Charles F. Laymance, Special Services, December 8.

Charlie H. Crass, Dimensional Inspection, December 11.

George W. Puckett, General Metal Fabrication Shop, December 11.

Fred E. Crowder, General Metal Fabrication Shop, December 11.

Thomas E. Hillard, Reproduction Department, December 11.

William M. Simpson, Jr., Special Production Scheduling and Coordinating, December 11.

Robert G. McGlothlin, 9215 Rolling Mill, December 11.

Fletcher H. DeFord, Research Services, December 12.

Lawrence E. Sikes, Process Maintenance, December 12.

Truman H. Coulter, Casting Department, December 12.

Alice W. Hair, Casting Department, December 13.

John M. Smith, Jr., Beta Two Chemistry, December 13.

Bert E. Burdette, Research Services, December 13.

Fred H. Rascoe, Jr., Research Services, December 13.

Burl R. Price, Research Services, December 14.

Ralph H. Lovin, Research Services, December 15.

15 YEARS

Margaret S. Damron, Materials and Services Administration, December 5.

James D. Fancher, Process Maintenance, December 9.

Benny H. Samuel, Machine Maintenance, December 9.

Charles E. Lowe, Alpha Five West Shop, December 10.

Donald A. Lanham, Material Procurement, December 11.

Glenn V. Wells, Mechanical Inspection, December 12.

Robert C. Anderson, Metallurgical Development, December 12.

Herbert L. Huff, Research Services, December 14.

10 YEARS

John E. Acuff, Jr., 9215 Rolling Mill, November 10.

Charles R. Ferguson, Product Information Center, November 14.

Clark M. Lay, Fabrication Division Engineering, November 21.

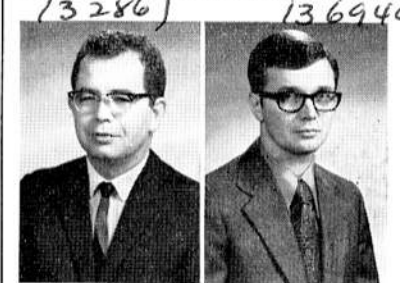
Thomas H. Coleman, Beta Four Heavy Machine Shop, November 23.

Timmons Scott, Alpha Five Processing, November 28.

John Blackburn, Buildings, Grounds and Maintenance Services, December 2.

Glen H. Shields, Machine Maintenance, December 4.

Franklin, Handley Papers Given at National Meet



Franklin

Handley

A relatively new method of chemical analysis and a safety study on enriched uranium were discussed at national meetings in November by two Y-12 scientists.

J. C. Franklin, analytical chemist, described "Time Resolved Spark Source Mass Spectrometry: The Effect of Spark Duration on Ion Intensity Relative Sensitivity and Precision Analysis" at the American Society of Mass Spectrometry Solids Workshop in Pittsburgh, Pa., November 16-17.

G. B. Handley, nuclear engineer, presented a study entitled, "Effect of Water Sprinklers on Array Criticality Safety Analyses," to the American Nuclear Society's Winter Meeting in Washington, D. C., November 16-19.

The information in the papers was obtained in support of U. S. Atomic Energy Commission programs here.

Markers Tie Swingsters For C League Alley Top

The Markers, rolling a 3094 combined handicap series, rolled over the Rippers recently to come up to tie the Swingsters in Classic League action. The Swingsters took the Rojo's for three. The bowlers rested last week for the Thanksgiving holiday.

Elmer Johnson, Splinters, split the alleys with a 247 single game; Lawrence Sikes, Rebels, rolled a 624 scratch, 687 handicap series!

League standings follow:

Team	W	L
Swingsters	32	16
Markers	32	16
All Stars	30½	17½
Bumpers	27	21
Has Beens	25½	22½
Rippers	25	23
Eightballs	25	23
Splinters	24½	23½
Rojo's	24	24
Rebels	24	24
Playboys	23	25
Cubs	19	29
Tigers	19	29
Screwballs	18½	29½
Eagles	18	30
Smelters	16	32

Application For Tickets

TO

Christmas Parties

FOR CHILDREN OF CARBIDE EMPLOYEES

(Ages Two-10 Only)

WEDNESDAY, DECEMBER 23

Employee's Name _____ Badge No. _____

Home Address _____

(PLEASE PRINT — STREET ADDRESS OR R.F.D., CITY, STATE, AND ZIP NUMBER)

NUMBER OF TICKETS (Children) _____

NUMBER OF TICKETS (Adult) _____

— CHECK TIME PREFERRED —

Wednesday, December 23 8:30 A.M. _____ 10:30 A.M. _____ 12:30 P.M. _____

Only 2:30 P.M. _____ 4:30 P.M. _____ 6:30 P.M. _____

Please check first and second choice (write in space "1" or "2") as only a limited number of tickets will be issued for each party. Preference will be given early applicants and if tickets for first choice are exhausted, tickets for second choice will be issued.

Return this form, properly and completely filled in, immediately to the Y-12 Recreation Office, Bldg. 9711-5, NOT LATER than December 18. The required number of tickets will then be mailed to parents at their HOME ADDRESS.

THE CARBIDE COURIER

Thursday, December 3, 1970

Page 3



RECEIVE MERIT AWARDS—Mary and Jim Fuller, Medical Laboratory, were both presented Merit Award plaques at the annual convention of the Tennessee Society of American Medical Technologists in Nashville, October 3. The awards were presented for the Fullers' excellent job in arranging the meeting of medical technologists in Oak Ridge last April.

20 Years' Service

A. E. Hill	11-01-50
H. J. Hulin	11-01-50
S. W. Fiveash	11-01-50
W. W. Smith	11-02-50
J. H. Boggs, Jr.	11-06-50
K. T. Ziehlke	11-08-50
J. Burch	11-10-50
R. B. Neal	11-13-50
J. M. Gregg	11-13-50
H. H. Cooper	11-17-50
D. R. Carson	11-20-50
T. F. McCuen	11-20-50
J. E. Cox	11-24-50
H. M. Hubbard	11-27-50
H. C. Herrell	11-27-50
E. E. Case	11-28-50
J. C. Hamby	11-29-50

Auburn Honors Copped By Co-Opping Students

Frank Vandergrift, Director of Co-operative Education at Auburn University, recently announced that Richard A. (Ricky) Steadham and William H. (Holden) Phillips, co-operative education students at Auburn University, had been named for the honor of ranking in the top one hundred pre-engineering students during the past academic year. Both Steadham and Phillips are employed by ORGDP in the Maintenance Services Department, Fabrication and Maintenance Division.

Ricky was born in Fairhope, Ala. and was graduated from W. P. Davidson High School, Mobile. Ricky is presently enrolled

Insurance Coverage For Disabled Child

All employees at the Oak Ridge Gaseous Diffusion Plant who are enrolled for family coverage in the hospitalization program automatically have coverage for unmarried dependent children from age 19 to age 23 if the children are wholly dependent upon the employee for support because of a physical or mental impairment, or if they are students in a school such as a college or university. Coverage for other children stops when they reach their 19th birthday, or when they get married before their 19th birthday.

If such an unmarried child is disabled on his 23rd birthday and continues to be disabled, he may continue to be a covered dependent, provided the dependency is accepted in writing by Union Mutual Life Insurance Company or Blue Cross-Blue Shield of Tennessee. In order to obtain this acceptance, a physician's statement describing the dependent child's condition must be filed with the insurance carrier through the Benefit Plans Office, not later than 31 days after the child reaches his 23rd birthday. Employees are notified in writing when the insurance carrier's decision is received.

at Auburn University studying mechanical engineering. During high school, he was on the basketball team and a member of the Fellowship of Christian Athletes. He is presently a member of Junior Engineering Technicians.

Holden was born in Tuscaloosa, Ala. and was graduated from Dale County High School, Midland City. Holden is presently enrolled at Auburn University in mechanical engineering.



PATENT APPLICATIONS — Separation Systems Division personnel receive patent application awards, from left, T. G. Burke, R. E. Brockwell and E. C. Denny. They are shown being presented awards by E. C. Evans, division superintendent. These applications were received for the development of high performance components for process machinery at ORGDP. This is not the first occasion on which these men were honored for their achievements. Each one has made many contributions to the programs they are engaged in, and have received several patent application awards for ideas they have developed.

Cascade Maintenance Announces Promotion of J. A. Womac to Foreman

J. A. Womac was promoted on December 1 to a maintenance foreman in the Cascade Maintenance Department, Fabrication and Maintenance Division. He was originally hired in January, 1945, and has worked at Y-12 as a machinist and at K-25 most recently as a planner and estimator. Prior to that, he was a process operator and barrier operator.

Before coming with Union Carbide, Womac worked for the Tennessee Valley Sand and Gravel Company at Sheffield, Ala.

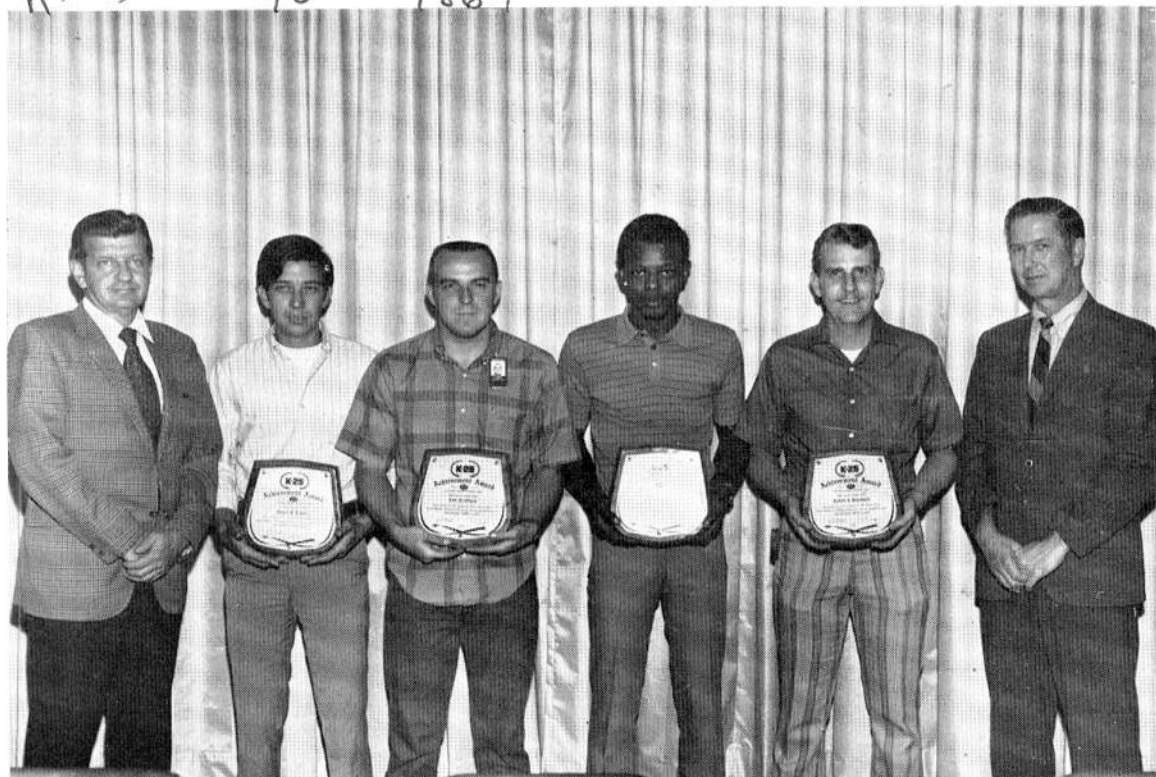
Womac was born in McMinn County. He is married to the former Virginia Wolfenbarger from Luttrell. The Womacs have three children: a daughter, Linda, married and residing in Nashville; Charles, employed in the Planning Department, City of Oak Ridge; and Michael attending Highland View School. The Womacs live at 100 South Hollywood Circle, Oak Ridge. Womac's outside interests include bowling and fishing.



J. A. Womac

THE CARBIDE COURIER

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K-1002 Building, Tel. 3-3097



FIRST CLASS MACHINISTS—L. A. Studinger, left, Superintendent of Fabrication and Maintenance, recently presented Achievement Awards to James D. Tedder, Jack D. Overly, Daniel J. Hinton, and Robert L. Blackwell. M. C. Martin, right, Machine Shop Department Head, attended the presentation. The awards were given to the first class machinists who graduated from the Helper Training Program.

Monday Deadline for Ticket Purchasing For Christmas Dance for December 12

Monday, December 7, is the cut-off day for the sale of tickets to the annual K-25 Christmas Dance to be held in the new Oak Ridge Civic Auditorium on Saturday, December 12. This cut-off is necessary to allow the Fabrication and Maintenance Division employees, who are hosts for this year's dance, enough time to have enough refreshments to serve the crowd.

Festivities will start at 8:00 p.m., followed by dancing to music by the "Classix." Admission is only \$3 per person this year. Tickets may be obtained from all division secretaries.



COLLISION COMING UP?—Do you want to meet this monster head-on? You could crash into this "straddle buggy" carrying a 14-ton product cylinder if you disregard the DO NOT ENTER sign (seen below) posted just before the curve in 7th Street at the northeast corner of K-25. 'Nuff said! D. A. Robinson is the operator in the straddle buggy.



Nuclear Power Plant Film Available Here

A new technical film on nuclear power plants is now available for loan to the public from the Atomic Energy Commission.

The 16mm film, in color and running 35 minutes, is entitled "Retirement of the Hallam Nuclear Power Facility." It is suitable for showing before utilities, industrial, technical and government audiences interested in the safe, effective retirement of a nuclear power station.

The film details the implementation of the AEC plan for decommissioning the 354-thermal megawatt sodium-cooled, graphite-mo-

derated nuclear power reactor located at Nebraska Public Power District's Sheldon Station.

Stressing the safety procedures necessary for the handling of sodium and radioactive materials, the film shows how the decommissioning work left the remaining structures non-hazardous and completely contained with no requirements for licensing or maintenance.

It may be borrowed free from the AEC's Film Library.

NUCLEAR POWER PLANTS

Nearly 3 million kilowatts of the nation's electricity are being generated by 14 nuclear power plants in 11 states.

Women's Bowling

Marilyn Canterbury, Oleta Carden, and Eileen Walbrecht were the high bowlers in the November 11 session of the K-25 Women's Bowling League. Marilyn had the best single game scores with 134-230. Oleta rolled a 507 scratch series and Marilyn and Eileen tied for high handicap, both having 616 scores.

In the November 18 session, Sue Davis rolled a 190 scratch game, Dorothy Gordon had the best singles handicap with 232; Mary Foley had the best scratch series with 504; and Jo Acres had the high series handicap with a 589.

STANDINGS

Pay-Offs	26	Hot Shots	19
Up-Towners	25	Pin-Ups	14½
Wood Bees	23	Spotters	11
Bowlettes	19	Hits & Misses	6½

Long Illness Claims F & M's Roger DeLoor

Roger A. DeLoor, 54, maintenance engineer in the special shops section, Fabrication and Maintenance Shops, died in the Oak Ridge Hospital November 19, following a lengthy illness. He had been employed by Union Carbide since April 4, 1946. He came to Oak Ridge with the U.S. Army Corps of Engineers, Manhattan District, in 1945, having served in the Army since July, 1943.



R. A. DeLoor

DeLoor was born in Ghent, Belgium, and was reared in Chicago, Ill. He graduated from Illinois Institute of Technology with a B.S. degree in mechanical engineering and had completed courses in engineering mathematics and statistics at the University of Tennessee.

Survivors include his wife, Evangeline; two daughters, Mary Beth, at home, and Ruth, a first lieutenant in the U.S. Army Nurses Corps at Fort Stewart, Ga. His mother, Mrs. Martha DeLoor, resides in Chicago.

DeLoor was an avid golfer and bowler. He was a member of the Elks Club and the Oak Ridge Golf and Country Club. He was a registered professional engineer with the State of Illinois.



NEEDLEPOINT DESIGNER — Nancy McCauley is shown creating some of her original needlepoint work. Nancy's recent hobby has now grown into a full-time business.

Part-Time Hobby in Needlework Grows Into Full-Time Business for K-25 Spouse

Every so often one hears of a person who has turned a hobby into a business. Such is the case with Nancy McCauley, wife of Lowell McCauley, AECOP. It was Nancy's hobby of sewing unusual needlework pieces of her own design that got her into the business of designing pieces for others to sew. During the week of December 7, her needlepoint designs will be displayed in the K-25 Cafeteria.

Nancy's first venture was designing the needlepoint kneelers, prayer table coverings, and several other pieces for St. Stephen's Episcopal Church, Oak Ridge. Later, she was commissioned to design similar pieces for St. John's Episcopal Church, Knoxville, and the Church of the Good Shepherd, Lookout Mountain. Within several months, the part-time "project" gradually became a full-time business.

Gives Lectures

Currently, Nancy designs and markets needlepoint kits throughout eight nearby states. Her kits, which are identified as "Canvas Patch Originals," include pictures, purses, belts, luggage straps, pillows, rugs, tennis racket covers, book covers, chair covers, wall hangings, ecclesiastical designs, family and organizational coats-of-arms, and custom designs to match fabrics, wallpaper, etc., to name but a few. She draws sketches free-hand, developing her ideas along the way, adapts the drawings for needlepoint, and

transfers them onto the canvas, where she paints the design with colors carefully mixed to match those of the Persian yarn included in the kits.

Many Lectures

Nancy has lectured in several states, and was the guest speaker at the annual spring meeting of the Georgia Chapter of the Embroiderer's Guild, held last March at Calloway Gardens. Within the last year she has conducted classes in Atlanta, Chattanooga, Cape Girardeau, Mo., and Knoxville. She is currently scheduled to lecture and conduct classes in Asheville, Atlanta, and Birmingham in early 1971. In 1969, her designs were selected for exhibition in "Stitchery 69," an international competition sponsored by Craftsman Branch, Pittsburgh, Pa. Her designs have been on display at the Atlanta Forward Arts Foundation's Swan Coach House and were exhibited in the Dogwood Arts Festival, the Southern Highlands Craft Festivals, the Foothills Craft Fairs, the convention of the American Council of Garden Clubs, and in recent issues of *House Beautiful* and *House and Garden*.

Nancy is a member of Craftsman's Branch, Embroiderer's Guild, Southern Highlands Handicraft Guild, and Foothills Craft Guild.

By contributing their time with the bookkeeping, yarn counting, and packaging, Nancy's husband "Mac" and their children Cynthia, Lowell, Jr., and Mimi, are all helpers in this project.

November Retiree

Joe Hugh Tuck, tractor operator in Buildings and Grounds Department, Fabrication and Maintenance Division, entered retirement status on November 27.



J. H. Tuck

His continuous service date with Union Carbide was August 17, 1945. Before coming to work here, he had worked for J. S. Parten in Oliver Springs and for the Mead Corporation in Harriman.

Tuck was born in Oliver Springs and attended Wheat School here in the K-25 area. He is married to the former Elizabeth Bennett and they have a daughter, Helen Ruth Matthews, residing in Harriman. The Tucks live on Highway 61, near Harriman.

Quotes From Notes From Our Retirees

Spent a week in Mexico City and enjoyed it a lot. Leaving Monday for Acapulco for three or four days. I am still having a good time.

Bill Schabot

LONG-TERM PROJECT

It would take about 200 years to produce a pound of californium-252, an isotope of a rare man-made element heavier than plutonium.

SAFETY SCOREBOARD

OUR PLANT
Has Operated
1,138,000 Safe Hours
Through November 29

Since last disabling injury on August 31

APPLICATION FOR TICKETS

ANNUAL CHRISTMAS PARTIES FOR CHILDREN OF CARBIDE EMPLOYEES

CHILDREN AGES 2 THROUGH 10

OAK RIDGE HIGH SCHOOL AUDITORIUM

Wednesday, December 23

(Please Print)

Employee's Name _____ Badge No. _____

K-25 Building Number _____ Dept. No. _____

Department Name _____ Plant Mail Stop No. _____

Only a limited number of tickets will be issued for each party. Preference will be given early applicants and if tickets for first choice of party are exhausted, the next choice for which tickets are still available will be issued.

INDICATE TIME PREFERRED — NUMBER 1 THROUGH 6

8:30 A.M. _____ 10:30 A.M. _____ 12:30 P.M. _____

2:30 P.M. _____ 4:30 P.M. _____ 6:30 P.M. _____

NUMBER OF CHILDREN'S TICKETS NEEDED _____

NUMBER OF PARENT'S TICKETS NEEDED _____

Return this form, PROPERLY FILLED OUT, immediately to the K-25 Recreation Office, Bldg. K-1002. Required number of tickets will be mailed to employees' plant address.

DEADLINE FOR SUBMITTING APPLICATION: FRIDAY, DECEMBER 18

— BE SURE THE APPLICATION IS COMPLETE —

Getting the Lead Out

By T. A. LINCOLN, M.D.

In 1958, the Surgeon-General of the Public Health Service appointed an Advisory Committee on Tetraethyl Lead to review the public health effects of increasing the maximum concentration of this anti-knock compound in gasoline from 3.0 to 4.0 ml/gallon. They concluded that such an addition would probably not significantly increase the hazard to public health from air pollution. They admitted that their conclusions were tentative because adequate information on public exposures or low level toxicity wasn't yet available. Now we



Dr. Lincoln

learn that lead is being removed or drastically reduced in most gasolines. Does this mean a more serious health hazard has been discovered?

Tetraethyl lead is added to premium gasoline to reduce knocking, which is due to an uneven burning of the gasoline-air mixture in the cylinder of the engine. After the fuel is ignited by the spark, it ideally should burn smoothly, exerting a continuous force against the piston. In a high-compression engine, especially if the gasoline contains a greater amount of certain fuel substances, such as n-heptane

or n-hexane, which are bad "knockers," the fuel auto-ignites ahead of the advancing flame. When this happens, the force on the piston is diminished, there is excessive heat and shock, and the engine loses power. Fuel is therefore wasted.

The best anti-knock compound is tetraethyl lead. It suppresses the wasteful auto-ignition. If gasoline contained only those compounds which do not knock appreciably, iso-octane or triptane, there would be little need to add anti-knock compounds. Unfortunately, this would make gasoline too expensive. By adding about 2½ cc. tetraethyl lead per gallon of premium gasoline, the octane number can be raised from about 96 to 100. The higher the octane number, the less the knock.

Size Is Important

Approximately 83 billion gallons of gasoline were burned in the United States in 1968. About 75% of the lead in gasoline is discharged in the exhaust and of this amount, about half of it remains airborne. The total of lead emissions from gasoline engines during 1968 was 181,000 tons, and over half of this was emitted in city driving. The next most common source of lead air pollution was from the burning of coal, but it was less than 1,000 tons. Total gasoline consumption has shown an average annual rate of increase of about 4% during the past five years and is expected to increase at about 3.5% per year in the future.

The particle size of the lead determines much of its health hazard. Unfortunately, one study in the Los Angeles area showed that 90% of the atmospheric lead was of a size that would be retained in the lung and ultimately absorbed. A large portion of exhaust emission consists of fairly large particles which settle to the ground fairly rapidly and are not a breathing hazard. Once on the ground, it may become a part of the lead content in the soil and might eventually be found in increased amounts in certain food products.

The concentration of lead in heavy traffic has been measured as high as 14 micrograms/cubic meter and in a vehicular tunnel at 44 micrograms/cubic meter. The average weekly lead air concentrations have been reported as high as 8 micrograms in San Diego, which is certainly not the most polluted city in the country. The World Health Organization air quality guide for Level 1 criterion is 2 micrograms, and the tentative air national quality limit for lead proposed by the American Industrial Hygiene Association is 10 micrograms/cubic meter.

Highest In Large Cities

Several thousand blood and urine samples from people living in different locations have been analyzed for lead, and the highest concentrations were found in those living and working in large cities. Dangerous levels were not found, but it was quite clear that people were absorbing significant amounts of lead.

There is no startling new toxicological information which would suggest that low levels in the body are harmful. Lead-

AARP Chapter Planning Christmas Entertainment

The local chapter of the American Association of Retired Persons recently enjoyed an outing to Crossville for lunch. They later attended the Cumberland County Playhouse production of "Kiss and Tell." A total of 72 members made this one of the most successful trips yet for AARP.

The Social Room of the Civic Center, Oak Ridge, will be the site of the December 17 meeting. The Christmas party will be staged, beginning at 7:30 p.m.

Bonnie Hembree, program chairman, is asking members to bring canned goods or food staples for a donation to the Holiday Bureau.

Membership in the AARP now stands at 400.

New membership is always welcome. Mrs. E. L. Long, 366 Outer Drive, Oak Ridge, can furnish interested parties with applications.

Spofford Try-Outs

Try-outs for "Spofford" will be held next Monday at 7:30 p.m. at the Oak Ridge Playhouse.

"Spofford" is based on Peter DeVries' hilarious novel, "Reuben, Reuben." The cast calls for members from ages 20 through 60. Spofford himself is a large role, but there are several other parts which are very small for those wishing to try the stage for the first time.

Special try-outs may be arranged by calling Oak Ridge 483-6193.

burners have worked for years with lead and where sensible precautions have been taken and exposures carefully controlled, no clinical lead poisoning is seen.

However, working with lead is quite different from living with lead. Standards must be set which protect those people who are most vulnerable to injuries. No one knows whether lead in low levels is hazardous to a pregnant woman or a person with severe chronic kidney disease. Breathing lead at low levels 24 hours a day is quite different from working at somewhat higher levels 40 hours a week.

'Hooker' To Problem

After reviewing the somewhat ominous situation described above, it may come as a shock to learn that the reduction in lead now being made by gasoline manufacturers is not based directly on any health concern about lead. The air quality criteria for lead have not even been published.

By 1975, new automobiles must emit only 5% of the hydrocarbons now being emitted by uncontrolled engines, while nitrogen oxide must be reduced to 15%. Such a drastic reduction will require the use of catalytic reduction devices installed in all automobiles. The "hooker" in the problem is that these devices just don't work when leaded gasoline is being burned in the engine. The catalyst surface gets plugged up and coated with solid lead compounds.

So to satisfy one set of standards, another serious pollutant is being eliminated. By getting the lead out, auto manufacturers can make engines that will meet the rigid standards for other serious pollutants.

It begins to look like the internal combustion engine may survive yet and do so without exacting a huge toll in human illness. The toll on the pocketbook, unfortunately, will probably be painful.



PERFORMING POODLES—Gerard Soules and his trained poodles will perform for Carbide children at the six big parties planned for Wednesday, December 23. The parties will be staged at 8:30, 10:30 a.m., and at 12:30, 2:30, 4:30 and 6:30 p.m. at the Oak Ridge High School auditorium. Applications for tickets appear in the Carbide Courier and Y-12 Bulletin sections of this issue of Nuclear Division News.

Mining in 'Reverse'

An abandoned salt mine, neglected for years, may once again give service to man. The Atomic Energy Commission has proposed turning such a mine in a small Kansas town into a long-term storage repository for radioactive wastes which accumulate in the development and operation of nuclear reactors.

Although it sounds novel, the idea to bury radioactive wastes in salt mines was suggested as early as 1955. In that year, a committee on waste disposal was established by the National Academy of Sciences-National Research Council at the request of the AEC to consider possibilities of disposal of high-level wastes. After some study the Committee reported that "the most promising method of disposal for high-level wastes at the present time seems to be in salt deposits."

Currently, liquid radioactive wastes are stored in underground, steel-lined, reinforced concrete tanks. However, methods have been developed for solidifying such wastes which greatly reduce their volume and makes it feasible to ship them for storage deep underground in salt mines. This is the method envisioned for handling wastes from the rapidly-growing nuclear power industry, which is expected to increase by 70 percent in its power output by 1990.

Salt has many characteristics that make it particularly attractive. It is widespread and abundant, underlying about 400,000 square miles in portions of 24 states in the United States; it is as strong as concrete; it is easy and inexpensive to mine, and the mines are not located near major earthquake zones. Most import-

antly, salt deposits are dry, and typically stay dry.

In cooperation with the U. S. Geological Survey and several Kansas state agencies, the AEC is conducting additional geologic and safety studies at the site of the first demonstration salt mine repository in Lyons, Kan. Once satisfied that all aspects of the operation can be done safely at the location, the AEC plans to seek authority from Congress to start the project in fiscal year 1972. The cost to establish the project is estimated at \$25,000,000.

The current project is a follow-up program to Project Salt Vault which was carried out by ORNL in a mine near Lyons from 1965 to 1967. Project Salt Vault demonstrated the safety and feasibility of handling highly radioactive wastes underground, and provided engineering data for the proposed full-scale demonstration project.

If the project receives a Congressional go-ahead, it will take nearly three years before the site is completed and ready to receive radioactive wastes. It is expected that the Lyon's project may become the initial repository for the storage of solid high level radioactive wastes.

Toll Enriching

(Continued from Page 1)

mated at approximately \$174,631,600. Enriched uranium provided under the contract will be fabricated into fuel elements for Units 1 and 2 of the Company's Calvert Cliffs Nuclear Power Plant which is under construction at Lusby, Md.



HELPING OUT—The handicapped at Daniel Arthur learn new skills and are willing to volunteer for other jobs to help themselves. Helping out in the recent paper drive were, from left, Carl Tackett, J. T. Phillips, and Claude Johnson. All are clients of the Tennessee Department of Vocational Rehabilitation at Daniel Arthur for work adjustment training.

Communications Club Leads DARC Drive

A new twist added to assist Daniel Arthur Rehabilitation Center's paper drives is paying multiple dividends.

For years, many private citizens have brought old papers and magazines to Daniel Arthur where they are bundled and sold for reprocessing in Knoxville. This fall while Oak Ridge was planning its fall cleanup, members of the Anderson County Radio Communications Club offered to use its radio network to help out.

15 Tons Collected

The basic idea was that Ridgers could call a central number, through which pickup locations would be relayed to car radios of club members. Instead of going to the dump, the paper would go to Daniel Arthur. The project was a natural for the communications club, a group which regularly assists in civil defense and other public-service activities.

Publicity in *The Oak Ridger* directed scores of phone calls to Mrs. Evelyn Hatfield, who manned the communication club's

central number for two hectic days. Y-12's Bill Shipley, the Club president, directed a group of volunteers who made the actual pickups.

After two days of hard work, over 15 tons of paper were collected and delivered to Daniel Arthur, where the Center's clients stacked and wrapped the paper for transport to Knoxville. The sale netted Daniel Arthur more than \$150.

But the overall result was much more than the extra dollars. There was increased public understanding of DARC, increased opportunity for the Center's handicapped to help themselves, and a cleaner community. Many were stimulated to do a little extra cleanup because they knew the paper would bring in some money for Daniel Arthur, which is a United Fund agency.

"The project gave our handicapped clients an opportunity to help themselves," reports Tom Palmer, director of vocational services at Daniel Arthur. Palmer is in charge of a recently expanded

work-adjustment training workshop for the multiple handicapped. His job is to help the handicapped cope with their problems and discover ways to contribute to society. His clients are sponsored by the East Tennessee region of the Tennessee Department of Vocational Rehabilitation, which provides all services necessary for the effective rehabilitation of the vocationally handicapped. There are 30 clients currently in the vocational program at Daniel Arthur.

Helpers Praised

Daniel Arthur officials and Shipley praised the many volunteers who helped in the project—particularly the Radio Club members, Daniel Arthur clients, and teenagers who assisted.

Helping on the project were Y-12's Shipley, L. R. and Isabelle Bailey, C. F. Jenkins, Sr., and Ralph Lockhart; ORGDP's W. T. Waldroup; teenagers Jon Shipley, Martha Shipley, Charles Heth, Jr., and George Hatfield; and others in the community, C. E. and Edna Heth, R. E. Whedbee, Pauline Davis, Norval Salvin, William Sherman, and Mike and Evelyn Hatfield.

The project went so well that Shipley is considering a year-round program with permanent pickup points and periodic special pickups by volunteer groups. "It's hard work," he says, "but it doesn't cost anyone anything but a few hours of effort. And it makes everyone a winner."

AEC Lets Contract For Butadiene Supply

The Atomic Energy Commission has awarded a \$43,000 contract for supplying the chemical, butadiene, to be used in its facilities here.

Ralph Elson, director of the Contract Division for the AEC's Oak Ridge Operations, said the contract was awarded on the basis of competitive bids to the Linde Division of Union Carbide, East Brunswick, N. J.

Under the contract terms, the company will supply approximately 109,000 pounds of the chemical which is estimated to be the annual requirements for Y-12.



UNION CARBIDE CORPORATION

NUCLEAR DIVISION

P. O. BOX Y, OAK RIDGE, TENNESSEE 37830

RETURN REQUESTED

(Do Not Forward—Return Postage Guaranteed)

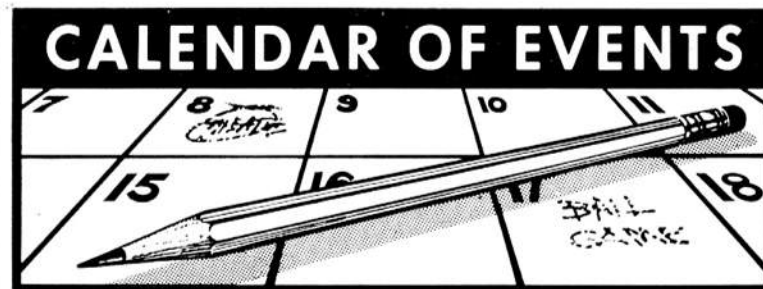
BULK RATE

U.S. Postage

PAID

Oak Ridge, Tenn.

Permit No. 71



TECHNICAL

December 4

UT Department of Chemical and Metallurgical Engineering Polymer and Rheology Seminar: "The Rheology of Paints," O. C. C. Lin, E. I. duPont Company. Room 434, UT Dougherty Engineering Building, 1:15 p.m.

December 8

Health Physics Division Seminar: "Rotational and Vibrational Excitation of Molecules by Low Energy Electrons," A. V. Phelps, Joint Institute for Laboratory Astrophysics, Boulder, Colo. East Auditorium, Building 4500N, 10:30 a.m.

Biology Division Seminar: "Comparative Immunology," N. Gengozian, ORAU. First Floor Tower Annex Conference Room, Building 9207, 12:15 p.m.

December 9

Metals and Ceramics Division Seminar: "The Discrete Variational Method and Its Application to the Electronic Structure of Crystalline Compounds," G. S. Painter. East Auditorium, Building 4500N, 2:45 p.m.

December 10

UT Department of Chemical and Metallurgical Engineering Polymer and Rheology Seminar: "Structure and Properties of Corfam," Edward L. Yuan, E. I. duPont. Room 434, UT Dougherty Engineering Building, 1:15 p.m.

December 11

The UT-Oak Ridge Graduate

School of Biomedical Science Lecture Series on the Biology of Aging: "Membrane Formation and its Relevance to Aging," Philip Siekevitz, The Rockefeller University. Large Conference Room, Building 9207, 3 p.m.

December 16

Metals and Ceramics Division Seminar: "Dislocation Motion Accompanying Dynamical Cleavage Cracks," Stephen J. Burns, Brown University. East Auditorium, Building 4500N, 2:45 p.m.

December 17

Chemistry Division Seminar: Light Scattering from Optically Active Fluids," L. Blum, University of Puerto Rico. East Auditorium, Building 4500N, 3 p.m.

Biology Division Seminar: "Comparative Studies on the Structure and Mechanism of Enolases," Finn Wold, University of Minnesota Medical School. Large Conference Room, Building 9207, 3:30 p.m.

COMMUNITY

December 3

The Melton Hill Council of Garden Clubs' Christmas flower show. Oak Ridge Civic Center, 3 to 9 p.m. No admission charge.

December 5-6

The Junior Playhouse presents "Two Pails of Water." Oak Ridge Community Playhouse, performance at 1 and 3 p.m. Admission \$.75.

December 7

Oak Ridge Community Playhouse Tryouts for the comedy "Spofford." Everyone welcome. 7:30 p.m.

December 12

Oak Ridge Community Chorus Concert. Oak Ridge High School, 8:15 p.m. Admission: Adults \$2.50, students \$1.25.

December 11-12

The Oak Ridge Civic Ballet Association's Winter Concert. Oak Ridge Playhouse, 8:15 p.m.; Saturday matinee, 2:30 p.m. Admission: Adults \$1.50, students \$.75.

FLOWER SHOW

A Christmas flower show will be given by the Melton Hill Council of Garden Clubs today from 3 to 9 p.m. in the Oak Ridge Civic Center. Trees of foreign lands will be featured, as well as arrangements depicting Christmas at home and abroad.

POWERFUL BUNDLE

In a nuclear rocket engine, being developed in Nevada by the Atomic Energy Commission and National Aeronautics and Space Administration, a reactor about the size of an office desk produces more power than Hoover Dam.



VOLUNTEERS — Among many volunteers helping during last month's paper drive for Daniel Arthur were, in truck, from left, Martha Shipley, Jon Shipley, and Isabelle Bailey, and, on the ground, from left, Lee Bailey and Norval Salvin.